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ABSTRACT

A questionnaire was mailed to 500 randomly selected households in a 15 square mile suburban area to assess the attitudes of adult community members regarding the use of computers in the schools. A response rate of 50% was achieved. It was found that respondents did not always have strong opinions regarding the use of computers in the schools; respondents believed that computers should be used to enrich the curriculum for highly motivated students but they were less enthusiastic about using computers for remedial work; persons over 51 years of age were more likely than younger people to believe that the schools are doing an adequate job of preparing young people to live in a technological society; responses by males and females were very similar; persons who used computers at work and professional educators were less satisfied with current provisions for teaching students to use computers; and the entire population of respondents strongly expressed the belief that knowledge of computer use is increasingly important. A three-item bibliography is included. (Author/ESR)

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ATTITUDES OF ADULTS TOWARD THE USE OF COMPUTERS IN SCHOOLS

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ATTITUDES OF ADULTS TOWARD THE USE OF COMPUTERS IN SCHOOLS

ABSTRACT

This paper describes attitudes of adult members of a community regarding the use of computers in the schools. It is important to examine these attitudes because these adults influence many decisions regarding allocation of funds for education. They also have some influence on decision-making concerning school staffing and curriculum development. A questionnaire was developed, administered to 250 persons, and the data were analyzed. Results indicated that the respondents did not always have strong opinions regarding the use of computers in the schools. Attitudes were influenced somewhat by factors such as the age of the person, whether the person uses a computer at work, and whether the person is a professional educator.

INTRODUCTION

Our society is experiencing a technolcgical revolution as microcomputers become an important part of everyday life. This revolution is changing the way we communicate, the way we process information, and even the way we entertain ourselves.

Do adults of today believe that the educational system is preparing students to function in a technological culture? Do they perceive the present technological growth to be an ongoing process? These are important questions to consider because these adults are making decisions which influence the type of education young people will receive. This study was designed to assess attitudes of these adults concerning (1) the degree to which the educational system is preparing young people to live in a computer-oriented society, and (2) the degree to which computers will be a part of our daily lives in the near future.

SEARCH OF THE LITERATURE

The authors conducted a search of the literature and found very few studies on attitudes of adults toward the use of computers in education. Lichtman (1979) conducted a study on the attitudes of educators toward computers. He found that educators considered computers to be dehumanizing and isolating. Teachers did not appear to believe that the use of computers would improve the quality of

life, and they were not enthusiastic about the use of computers for instruction. School administrators were found to have a far more positive attitude than the teachers toward the use of computers in education.

Ahl (1975) surveyed public attitudes toward computers in society. Approximately one-third of the 843 respondents were educated or experienced in computer usage. Eighty-five per cent of the respondents believed that computers will improve education. Ninety-two per cent of the adults participating in the study believed that computers are an inevitable part of modern life. Student respondents who had computers in their schools believed that they could understand computer operation.

A review of the literature on attitudes toward computers and computerized instruction was completed by Lawton and Gerschner (1982). They included in their review any article that was directly or indirectly concerned with attitudes toward computers. They found that there is little agreement among the studies regarding attitudes of people toward computers and computerized instruction.

QUESTIONNAIRE DEVELOPMENT

After the search of the literature was completed, the authors developed a questionnaire. The questionnaire was submitted to five subject specialists who made suggestions concerning the revision of the assessment tool. After the revision was complete, the questionnaire was submitted to twenty adults similar to the

proposed study population in age, socioeconomic status, and educational level. Their comments provided a basis for further revision of the questionnaire. The revision was completed and the questionnaire was mailed to a group of randomly selected households in a fifteen square mile suburban area. Five hundred questionnaires were mailed and two hundred fifty were returned.

SUBJECTS

The subjects consisted of two hundred fifty persons selected at random from the city directory. Since the male occupant of the household is the only one usually listed in the publication, the sample drawn for the study was eighty-one per cent male. Eighty-eight per cent of the respondents were married heads of households. Sixty-five per cent of the respondents had children under age sixteen living in their homes. Sixty per cent of the respondents were parents of college students. The subjects were over thirty-five years of age in eighty-two per cent of the cases.

Seventy-three per cent of the household heads participating in the study had yearly incomes in excess of $24,000. The mean household income was $42,000 annually. Seventy-eight per cent of the household heads had finished college and forty-two per cent of them had earned at least one graduate degree. Nine per cent of the males were professional educators. Thirty-one per cent of the males were professionals in fields other than education. Twelve

per cent of the females were professional educators. Ten per cent of the females were professionals in fields other than education.

DATA ANALYSIS

The attitude assessment consisted of two parts. The first part was entitled "Opinions on Computer Education in the U.S. Public Schools." The second section was entitled "Computers and the Future." The subjects were requested to read statements and assign values to the statements. The numerical values corresponded with the following attitudinal statements.

1 Strongly agree

2 Slightly agree

3 Neither agree nor disagree

4 Slightly disagree

5 Strongly disagree

The data were examined and the numerical values were expressed as average numerical values.

OPINIONS ON COMPUTER EDUCATION IN THE U.S. PUBLIC SCHOOLS

Analysis of the data indicated that the subjects strongly believed that computers could be used to enrich the curriculum for highly motivated students, but were less enthusiastic about using computers for remedial work in the schools (Table I). They did not appear to have pronounced opinions concerning whether schools have

TABLE I

ANALYSIS OF DATA FROM TOTAL POPULATION

VARIABLES	AVERAGE NUMERICAL VALUE
Per Cent of Total Population	100%
Public Schools:	
Offer an adequate number of electives in computer operations.	2.83
Have sufficient teachers and computers so students can take a computer course during the school term they prefer.	3.09
Have sufficient computers so students have adequate access to the computer to run programs.	3.13
Should use computers to assist students needing remedial training.	2.27
Should use computers to enrich the curriculum of highly motivated students by offering additional electives.	1.51
Could use computers to improve students' scores on math proficiency tests.	2.38
Could use computers to improve students' scores on grammar proficiency tests.	2.43
Are adequately preparing students to use computers in their adult lives.	3.52

adequate electives in computer operation or whether schools have sufficient teachers and computers so students can take a computer course during the schools term they prefer.

The data were then analyzed to determine whether the attitudes of the subjects were influenced by their ages (Table II). It was found that persons over 51 years of age had a tendency to believe that schools offer an adequate number of electives in computer operation. People in this age group also believed that the schools have sufficient teachers and computers so students can take a computer course during the school term they prefer. Persons under 51 years of age had a slight tendency to favor the use of computers for remedial work and for improvement of proficiency test scores. These people were less certain than the older persons that the schools are preparing students to use computers. With the possible exception of the persons in the "over sixty-five" age group, the subjects were in favor of adding computer studies to the curriculum of highly motivated students for enrichment.

The data were examined to determine whether the sex of the respondent influenced attitudes toward the use of computers in the schools (Table III). The numerical values revealed a high level of agreement in all areas represented in this section of the questionnaire.

The authors then sought to determine whether the fact that the respondent utilized a computer as part of duties at work influenced

TABLE II

ANLYSIS OF DATA BY AGE OF RESPONDENT

VARIABLES	21-35	36-50	51-65	Over 65
Per Cent of Total Population	18.2%	38.8%	32.6%	10.4%
Public Schools:				
Offer an adequate number of electives in computer operations.	3.29	3.18	2.47	2.60
Have sufficient teachers and computers so students can take a computer course during the school term they prefer.	3.52	3.40	2.59	2.96
Have sufficient computers so students have adequate access to the computer to run programs.	3.50	3.50	2.63	2.92
Should use computers to assist students needing remedial training.	2.13	2.28	2.22	2.79
Should use computers to enrich the curriculum of highly motivated students by offering additional electives.	1.45	1.52	1.44	1.84
Could use computers to improve students' scores on math proficiency tests.	2.20	2.32	2.42	2.70
Could use computers to improve students' scores on grammar proficiency tests.	2.13	2.39	2.44	3.04
Are adequately preparing students to use computers in their adult lives.	3.54	3.90	3.23	3.24

TABLE III

ANALYSIS OF DATA BY SEX OF RESPONDENT

VARIABLES	MALE	FEMALE
Per Cent of Total Population	82.4%	17.6%
Public Schools:		
Offer an adequate number of electives in computer operations.	2.96	2.65
Have sufficient teachers and computers so students can take a computer course during the school term they prefer.	3.13	3.02
Have sufficient computers so students have adequate access to the computer to run programs.	3.19	2.97
Should use computers to assist students needing remedial training.	2.30	2.16
Should use computers to enrich the curriculum of highly motivated students by offering additional electives.	1.51	1.51
Could use computers to improve students' scores on math proficiency tests.	2.35	2.42
Could use computers to improve students' scores on grammar proficiency tests.	2.43	2.39
Are adequately preparing students to use computers in their adult lives.	3.52	3.53

his attitudes concerning the use of computers in the schools (Table IV). It was found that persons who use computers at work are more likely to believe that schools do not offer an adequate number of electives in computer operation than whose who do not use computers at work. People in this group believed that schools may not have adequate teachers and computers so that students can take computer courses when they prefer. They also did not believe that schools have sufficient computers for students to have adequate access to computers for the purpose of running programs.

The data gathered from the respondents who were professional educators were compared with the data gathered from the population as a whole (Table V). It was found that educators were less likely than the respondents comprising the entire population to believe that schools offer an adequate number of electives in computer operations. The educators did not believe that the schools have sufficient teachers and computers to allow students to take a computer course during the school term they prefer. Like the other respondents, educators were more enthusiastic about the use of computers for enrichment activities than for remedial activities.

COMPUTERS AND THE FUTURE

In the second section of the questionnaire respondents were again asked to assign values to statements. The data were analyzed and the numerical values were expressed as average numerical values.

The entire population of respondents strongly expressed the belief that a knowledge of how to use a computer is becoming

TABLE IV

COMPARISON OF RESPONDENTS' ATTITUDES RELATIVE TO WHETHER THEY USE A COMPUTER AT WORK

VARIABLES	USE COMPUTER	DOES NOT USE COMPUTER
Per Cent of Total Population	55.8%	44.2%
Public Schools:		
Offer an adequate number of electives in computer operations.	3.19	2.74
Have sufficient teachers and computers so students can take a computer course during the school term they prefer.	3.42	2.99
Have sufficient computers so students have adequate access to the computer to run programs.	3.50	2.98
Should use computers to assist students needing remedial training.	2.34	2.30
Should use computers to enrich the curriculum of highly motivated students by offering additional electives.	1.47	1.55
Could use computers to improve students' scores on math proficiency tests.	2.41	2.38
Could use computers to improve students' scores on grammar proficiency tests.	2.41	2.41
Are adequately preparing students to use computers in their adult lives.	3.74	3.41

TABLE V

COMPARISON OF EDUCATORS' ATTITUDES WITH ATTITUDES OF THE TOTAL POPULATION

VARIABLES	EDUCATORS	TOTAL POPULATION
Per Cent of Total Population	9.6%	100%
Public Schools:		
Offer an adequate number of electives in computer operations.	3.16	2.88
Have sufficient teachers and computers so students can take a computer course during the school term they prefer.	3.50	3.09
Have sufficient computers so students have adequate access to the computer to run programs.	3.45	3.13
Should use computers to assist students needing remedial training.	2.58	2.26
Should use computers to enrich the curriculum of highly motivated students by offering additional electives.	1.52	1.50
Could use computers to improve students' scores on math proficiency tests.	2.54	2.37
Could use computers to improve students' scores on grammar proficiency tests.	2.37	2.42
Are adequately preparing students to use computers in their adult lives.	4.00	3.52

increasingly important (Table VI). The respondents also strongly believed that a knowledge of how to use a computer is a necessary part of a child's preparation for the future , but they were not certain the schools will be able to meet the challenge of preparing young people for the future in this area. When the data were analyzed according to the age of the respondents it was found that there is a high level of agreement among all age groups (Table VII). While they believed that a knowledge of computer technology to be important, they were not certain that the schools will be prepared to offer adequate support for the teaching of computer operation. The data were analyzed according to the sex of the respondents (Table VIII) and there were no significant differences in the responses of males and females.

The data in Section II were analyzed according to whether respondents utilize a computer as part of their work (Table IX) and there were no significant differences in the responses of the subjects in the two groups. The data were analyzed according to whether the respondents were professional educators (Table X) and it was found that educators were less sure than other respondents that schools will be able to provide adequate instruction in computer operation during the next 10 years.

COMPARISONS OF DATA FROM THE TWO SECTIONS

The subjects were not found to be optimistic about

TABLE VI

ANALYSIS OF DATA FROM TOTAL POPULATION

VARIABLES	*AVERAGE NUMERICAL VALUES*
Per Cent of Total Population	*100%*
A knowledge of how to use a computer is becoming increasingly important.	*1.27*
A knowledge of how to use a computer is a necessary part of a child's preparation for the future.	*1.72*
During the next 10 years, public schools will be unable to afford to provide adequate training on computers for their students.	*2.61*
During the next 10 years, public schools will be unable to afford computers to provide remedial instruction.	*2.59*
During the next 10 years, public schools will be unable to afford computers to provide additional elective courses to enrich the curriculum.	*2.61*

TABLE VII

ANALYSIS OF DATA BY AGE OF RESPONDENT

VARIABLES	*21-35*	*36-51*	*51-65*	*Over 65*
Per Cent of Total Population	*18.2%*	*38.8%*	*32.6%*	*10.4%*
A knowledge of how to use a computer is becoming increasingly important.	*1.41*	*1.25*	*1.20*	*1.28*
A knowledge of how to use a computer is a necessary part of a child's preparation for the future.	*1.72*	*1.70*	*1.72*	*1.84*
During the next 10 years, public schools will be unable to afford to provide adequate training on computers for their students.	*2.72*	*2.64*	*2.56*	*2.52*
During the next 10 years, public schools will be unable to afford computers to provide remedial instruction.	*2.79*	*2.52*	*2.62*	*2.48*
During the next 10 years, public schools will be unable to afford computers to provide additional elective courses to enrich the curriculum.	*2.79*	*2.58*	*2.62*	*2.33*

TABLE VIII

ANALYSIS OF DATA BY SEX OF RESPONDENT

VARIABLES	*MALE*	*FEMALE*
Per Cent of Total Population	*82.4%*	*17.6%*
A knowledge of how to use a computer is becoming increasingly important.	*1.27*	*1.23*
A knowledge of how to use a computer is a necessary part of a child's preparation for the future.	*1.73*	*1.66*
During the next 10 years, public schools will be unable to afford to provide adequate training on computers for their students.	*2.65*	*2.38*
During the next 10 years, public schools will be unable to afford computers to provide remedial instruction.	*2.63*	*2.36*
During the next 10 years, public schools will be unable to afford computers to provide additional elective courses to enrich the curriculum.	*2.67*	*2.31*

TABLE IX

COMPARISON OF RESPONDENTS' ATTITUDES RELATIVE TO WHETHER THEY USE A COMPUTER AT WORK

VARIABLES	USE COMPUTER	DOES NOT USE COMPUTER
Per Cent of Total Population	55.8%	44.2%
A knowledge of how to use a computer is becoming increasingly important.	1.23	1.31
A knowledge of how to use a computer is a necessary part of a child's preparation for the future.	1.74	1.76
During the next 10 years, public schools will be unable to afford to provide adequate training on computers for their students.	2.63	2.61
During the next 10 years, public schools will be unable to afford computers to provide remedial instruction.	2.60	2.63
During the next 10 years, public schools will be unable to afford computers to provide additional elective courses to enrich the curriculum.	2.70	2.56

TABLE X

COMPARISON OF EDUCATORS' ATTITUDES WITH ATTITUDES OF TOTAL POPULATION

VARIABLES	EDUCATORS	TOTAL POPULATION
Per Cent of Total Population	9.6%	100%
A knowledge of how to use a computer is becoming increasingly important.	1.25	1.27
A knowledge of how to use a computer is a necessary part of a child's preparation for the future.	1.73	1.72
During the next 10 years, public schools will be unable to afford to provide adequate training on computers for their students.	2.13	2.61
During the next 10 years, public schools will be unable to afford computers to provide remedial instruction.	2.17	2.59
During the next 10 years, public schools will be unable to afford computers to provide additional elective courses to enrich the curriculum.	2.30	2.61

the future ability of the schools to provide adequate instruction in computer operation than the present ability of the schools to perform this task (tables I, VI).

Respondents in the 51-65 age group had a more positive attitude concerning the present ability of the schools to provide instruction in computer operation than younger people (Tables II, VII). They shared the positive feelings of the younger people concerning the future of computer utilization in the schools.

Educators were unsure whether the schools are doing an adequate job of providing instruction in computer operation for students of today, but they were even more unsure of the ability of the schools to provide this instruction in the future (Tables V, X).

CONCLUSIONS

Persons over 51 years of age are more likely to believe that the schools are doing an adequate job of preparing young people to live in a technological society than younger people.

Educators tend to more critical of the ability of the schools to provide adequate instruction in technical areas than other people in society. Lichtman (1979) found them to be less positive about the use of computers for instruction than the general public, but this study found them to be as enthusiastic as other people regarding the use of computer assisted instruction. Perhaps this finding could be explained by noting that during the last five years there has been a growth in computer

usage by the general public. Today many people own home computers or have friends who own them. This increased computer usage has been noted by educators, and they now believe that a knowledge of computer technology is important. They may not feel themselves to be equal to the task of preparing young people in the area of computer operation.

Everyone agrees strongly that a knowledge of how to use a computer is a necessary part of a child's preparation for the future. They also agree that schools should use computers for enrichment activities.

Factors such as age, occupation and the use of a computer at work influence the attitudes of people regarding the use of computers in the schools.

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